

**WHAT IS CLAIMED IS:**

- 1        1.        A method for ensuring a secure programming environment for a computer system  
2        comprising the steps:  
3                modifying a processor of said computer system to incorporate an S-latch, a first  
4        state of said S-latch setting said processor in a secure state and a second state of said S-  
5        latch setting said processor in a non-secure state;  
6                writing a security code in an NVRAM coupled to said computer system;  
7                reading said security code from said NVRAM;  
8                setting said first and second state of said S-latch in response to states of said  
9        security code; and  
10               not accepting processor commands from an In Circuit Emulator (ICE) unit  
11        coupled to said computer system when said S-latch is in said first state and accepting  
12        processor commands from said ICE unit when said S-latch is in said second state.
- 1        2.        The method of claim 1, wherein said security code is read by boot block code  
2        within a Basic Input Output System (BIOS) code of said computer system.
- 1        3.        The method of claim 2, wherein said S-latch is set by said boot block code in  
2        response to reading said security code.
- 3        4.        The method of claim 2, wherein said boot block code is a first code executed on  
4        each power up or system reset of said computer system.
- 1        5.        The method of claim 1, wherein said security code is encrypted when written into  
2        said NVRAM unit.

3 6. The method of claim 1, wherein said security code is password protected when  
4 written into said NVRAM unit.

1 7. The method of claim 2, wherein said BIOS code is executed if said boot block  
2 code is able to authenticate said security code and said boot block code is able to write  
3 to said S-latch if said security code corresponds to setting said first state of said S-latch.

1 8. The method of claim 2, wherein said BIOS code is not executed if said boot block  
2 code is not able to authenticate said security code.

1 9. The method of claim 2, wherein said BIOS code is not executed if said boot block  
2 code is able to authenticate said security code and said boot block code is not able to set  
3 a state of said S-latch.

1 10. The method of claim 1, wherein said ICE unit is coupled to said computer system  
2 on a system bus of said computer system.

1 11. The method of claim 1, wherein said ICE unit is coupled to said computer system  
2 on a JTAG scan chain bus.

1 12. The method of claim 1, wherein said ICE unit is coupled to said computer system  
2 in place of said modified processor.

1 13. The method of claim 1, wherein a default said S-latch in said computer system  
2 is set to a non-secure state.

1 14. A computer system comprising:  
2 a central processing unit (CPU);  
3 a random access memory (RAM);  
4 non-volatile RAM (NVRAM);  
5 a communications adapter coupled to a communication network;  
6 an I/O adapter;  
7 a bus system coupling said CPU to said NVRAM, said communications adapter,  
8 said I/O adapter, and said RAM, wherein said CPU further comprises:  
9 a modified processor with an S-latch, a first state of said S-latch setting said  
10 modified processor in a secure state and a second state of said S-latch setting said  
11 modified processor in a non-secure state;  
12 circuitry operable to receive and write a security code in said NVRAM;  
13 circuitry operable to read said security code from said NVRAM; and  
14 circuitry operable to set said first and second state of said S-latch in response to  
15 states of said security code;  
16 wherein said modified processor accepts commands from an In Circuit Emulator  
17 (ICE) unit coupled to said computer system when said S-latch is in said second state and  
18 does not accept processor commands from said ICE unit when said S-latch is in said first  
19 state.

1 15. The computer system of claim 14, wherein said security code is read by boot  
2 block circuitry within Basic Input Output System (BIOS) circuitry of said computer  
3 system.

1 16. The computer system of claim 15, wherein said S-latch is set by said boot block  
2 circuitry in response to reading said security code.

3 17. The computer system of claim 15, wherein said boot block circuitry reads said  
4 security code as a first operation on each power up or system reset of said computer  
5 system.

1 18. The computer system of claim 14, wherein said security code is encrypted when  
2 written into said NVRAM unit.

1 19. The computer system of claim 14, wherein said security code is pass word  
2 protected when written into said NVRAM unit.

1 20. The computer system of claim 15, wherein said BIOS circuitry is enabled if said  
2 boot block code is able to authenticate said security code and said boot block code is able  
3 to write to said S-latch if said security code corresponds to setting said first state of said  
4 S-latch.

1 21. The computer system of claim 15, wherein said BIOS circuitry is disabled if said  
2 boot block is not able to authenticate said security code.

1 22. The computer system of claim 15, wherein said BIOS circuitry is disabled if said  
2 boot block circuitry is not able to set said S-latch into a state.

1 23. The computer system of claim 14, wherein said ICE unit is coupled to said  
2 computer system on a system bus of said computer system.

1 24. The computer system of claim 14, wherein said ICE unit is coupled to said  
2 computer system on a JTAG scan chain bus.

3        25.     The computer system of claim 14, wherein said ICE unit is coupled to said  
4        computer system in place of said modified processor.

1        26.     The computer system of claim 14, wherein a default said S-latch in said computer  
2        system is set to a non-secure state.